CDMA850 Split Bandwidth Adjustable Repeater
RD-8132 20W

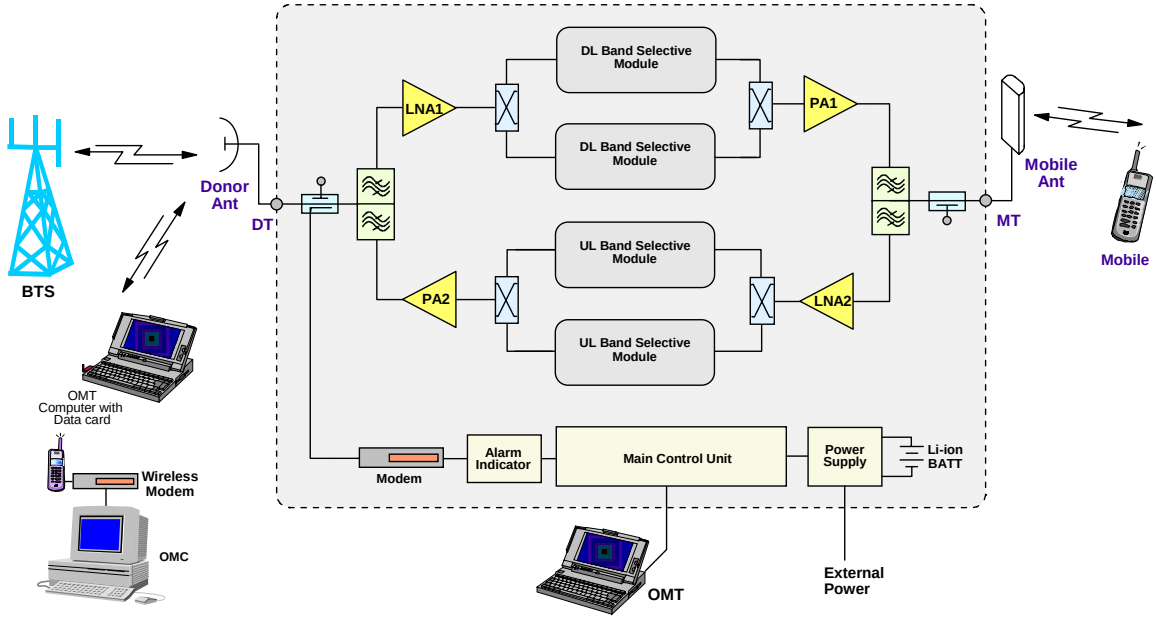
Features

- Two sub band-selective modules with adjustable bandwidth.
- Utilize linear and high efficiency MCPA that support multi-protocol operation
- Integrated wireless modem for remote configuration, monitoring and control.
- Internal backup battery keeps the alarm unit running for up to three hours after power failure.
- Compatible to Comba generic OMT and OMC platform.
- Designed for all weather outdoor installation – waterproof, damp-proof and omni-sealed (IP65).

Product Description

The RD-8132 split band-selective repeater is designed for CDMA850 networks. Band-specific linear MCPA and filtering effectively amplifies the desired BTS carriers and provides superior out-of-band rejection. The unit can incorporate two adjustable bandwidth segments. Remote configuration and surveillance is possible through Comba's remote control and monitoring system via PC or wireless modem to the OMT/OMC. Internal Li-ion backup battery ensures alarm signals are sent out during power failure. The unit comes in a sealed, cast aluminum enclosure, suitable for operation in all weather conditions.

Functional Block Diagram



Preliminary Technical Specifications

Electrical			
Frequency Range, Uplink		MHz	824 – 849
Frequency Range, Downlink		MHz	869 – 894
Number of Band Selective Segment			2
Total Output Power, Uplink		dBm	25 ± 1
Total Output Power, Downlink		dBm	43 ± 1
Number of CDMA Channels		MHz	1 to 12 (Segment 1), 1 to 4 (Segment 2)
Maximum System Gain		dB	95 ± 2
Gain Adjustment Range (1dB step)		dB	0 – 30
Pass Band Ripple, p-p		dB	≤ 5
System Noise Figure		dB	≤ 6
System Group Delay		μsec	≤ 6
Out-of-Carrier Spurious, Uplink	Δf ≥ 900KHz	dBc	≤ -42 / 30KHz
	Δf ≥ 1.98MHz	dBc	≤ -54 / 30KHz
Out-of-Carrier Spurious, Downlink	Δf ≥ 750KHz	dBc	≤ -45 / 30KHz
	Δf ≥ 1.98MHz	dBc	≤ -60 / 30KHz
Out-of-Band Suppression	Δf ≥ 2.5MHz	dBc	≤ -40
	Δf ≥ 10MHz	dBc	≤ -60
Out-of-Band Spurious, Δf ≥ 2.5MHz	9KHz - 1GHz	dBm	≤ -36 / 100KHz
	1 - 12.75GHz	dBm	≤ -30 / 1MHz
Input VSWR			≤ 1.5
Absolute Maximum RF Input Power, Downlink		dBm	+10
Frequency Error		ppm	≤ ± 0.05
Quality of Waveform			> 0.970
Impedance		Ω	50
Power, Mechanical & Environmental			
Dimensions, H x W x D		mm	600 x 450 x 295
Weight (approx.)		kg	50
Power Supply		VAC	85 – 264 / 47 – 63Hz
Power Consumption (approx.)		W	300
Power Up Waiting Time (approx.)		sec	60
MCU Battery Backup Time (approx.)		hr	3
Enclosure Color			Grey
Enclosure Material			Aluminum
Enclosure Cooling			Convection
RF Connectors			N-Female
Operating Temperature		°C	-33 to +55
Operating Humidity			≤ 95%
Environmental Class			IP65
MTBF		hr	≥ 50,000

Note: Typical specification at room temperature

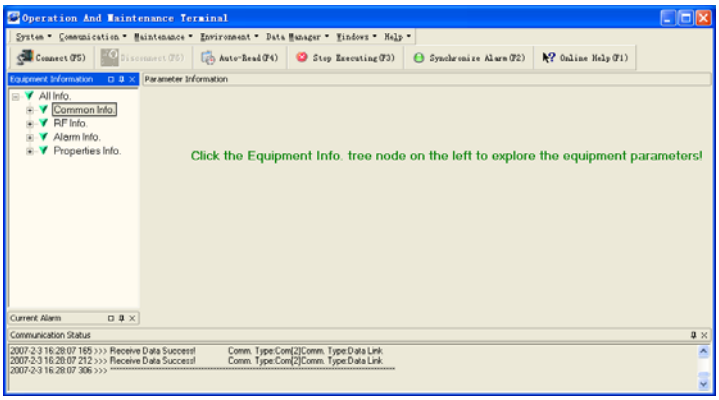
Operation and Maintenance

Using a direct serial connection to a PC, installation and commissioning of the RD-8132 is accomplished by the OMT. Using the integrated wireless modem (data or SMS mode), the equipment parameters can be monitored and controlled remotely.

Controlled equipment parameters include: Carrier Switch, Channel No. Range, ATT, RF Switch, Over-Temp Threshold, DL Input Power Threshold, DL Output Power Threshold and Alarm Report Enable.

Monitored equipment parameters include: Alarms (LNA, PA, PLL unlock, Power Down, PSU Fault, Chassis Lock, Self-Oscillation, DL Output Power Low, DL Input power Overload, Over Temp, VSWR), DL Output Power and DL Input Power.

The RD-8132 has been developed to take advantage of advanced network operation, where the OMC (optional) provides an effective solution for central monitoring of a group of Comba products.



Outline Drawing